

# **The University of Burdwan**



**Syllabus for 3 Year Degree /4 Year Honours**

**in**

# **Economics**

**Under**

**Curriculum and Credit Framework for Undergraduate Programmes  
(CCFUP) as per NEP, 2020w.e.f 2023-24**

## Semester Wise and Course Wise Credit Distribution Structure of Syllabus for BA/B.Sc. in Economics under CCFUP as Per NEP, 2020

**Students must have to pass in Mathematics/ Business Mathematics at +2 Level**

SEM	Course Type	Course Code	Course Title	L-T-P	Credit	Marks	Marks Division		
							The	Int	Prc/Viva-voce
<b>I</b>	Major / DS Course	ECON1011	Microeconomics-I	3 -1-0	4	75	60	15	00
	Minor Course	ECON1021	Basic Microeconomics	3-1-0	4	75	60	15	00
	Multi/Interdisciplinary	ECON1031	Elementary Economics	2-1-0	3	50	40	10	00
	AEC (L <sub>1</sub> -1): MIL	.....1041	Arabic/ Bengali/ Hindi/ Sanskrit/ Santali/ Urdu or Equivalent. Course from SWAYAM /Any other UGC recognized platform -	2 -0- 0	2	50	40	10	00
	SEC	ECON1051	Basic Computer Application (Practical)	0 -0- 3	3	50	00	10	40
	CVA Course	CVA1061	Environmental Science / Education	3 -0 -1	4	100	60	20	20
	<b>Total</b>				<b>20</b>	<b>400</b>			
<b>II</b>	Major / DS Course	ECON2011	Macroeconomics-I	3 -1- 0	4	75	60	15	00
	Minor Course	ECON2021	Basic Macroeconomics	3 -1 -0	4	75	60	15	00
	Multi/Interdisciplinary	ECON2031	Issues in Indian Economy	2 -1- 0	3	50	40	10	00
	AEC (L <sub>2</sub> -1): English	ENGL2041	Functional English or Equivalent. Course from SWAYAM/ /any other UGC-recognized platform	2- 0- 0	2	50	40	10	0
	SEC	ECON2051	Entrepreneurship Development	2 -1- 0	3	50	40	10	00
	CVA Course	CVA2061	Understanding India/Digital & Technological Solutions/Health & Wellness, Yoga Education, Sports & Fitness	3/3-1/0-0/1	4	100	80/60	20	0/20
	<b>Total</b>				<b>20</b>	<b>400</b>			

SEM	Course Type	Course Code	Course Title	L-T-P	Credit	Marks	Marks Division		
							The	Int	Prc/Viva-voce
<b>III</b>	Major / DS Course Level:200 - 299	ECON3011	Microeconomics-II	4 -1 -0	5	75	60	15	00
	Major / DS Course Level:200 - 299	ECON3012	Statistical Methods-I	4 -1 -0	5	75	60	15	00
	Minor Course Level:200 - 299	.....3021	Vocational: Education and Training	3-1-0	4	75	60	15	00
	Multi/ Interdisciplinary	ECON3031	Money and Banking	2 -1 -0	3	50	40	10	00
	AEC (L1-2): MIL	.....3041	Arabic/ Bengali/ Hindi/ Sanskrit/ Santali/ Urdu or Equivalent. Course from SWAYAM /Any other UGC recognized platform -	2 -0 -0	2	50	40	10	00
	SEC	ECON3051	Managerial Economics	2 -1 -0	3	50	40	10	00
	<b>Total</b>				<b>22</b>	<b>375</b>			
<b>IV</b>	Major / DS Course Level:200 - 299	ECON4011	Macroeconomics-II	4 -1 -0	5	75	60	15	00
	Major / DS Course Level:200 - 299	ECON4012	Mathematical Economics-I	4 -1 -0	5	75	60	15	00
	Major / DS Course Level:200 - 299	ECON4013	Statistical Methods-II	4 -1 -0	5	75	60	15	00
	Minor Course Level:200 - 299	ECON4021	Computer Applications	-	4	75	00	15	60
	Minor Course (Other than Economics)	.....4021	-	-	4	75	-	15	-
	AEC (L2-2): English	ENGL4041	Language and Creativity or Equivalent. Course from SWAYAM/ /any other UGC-recognized platform	2- 0- 0	2	50	40	10	00
	<b>Total</b>				<b>25</b>	<b>425</b>			



# University of Burdwan

B.A. /B.Sc. 4/3 Year UG Course in Economics w.e.f. Session 2023-24

1<sup>st</sup> Semester

Major / DS Course (Core)

Microeconomics-1 (ECON 1011)

Full Marks: 75 (60 Theory + 15 Internal)

Credit: 4

LTP: 3-1-0

Lectures: 60

## 1. General Concept

(08 Lectures)

Scope of Economics- Distinction between Microeconomics and Macroeconomics – concept of different Microeconomic units – commodity, consumer, firm, industry and market. Determinants of demand and supply, demand curve, supply curve – concepts of equilibrium - static, dynamic, comparative static and stability of equilibrium, concept of elasticity.

## 2. Consumer Behaviour

(20 Lectures)

- The Marshallian Approach: measurement of utility – derivation of demand curve – consumer's surplus.
- Indifference curve approach: indifference curve and its properties, the consumer- pathological cases – consumer's equilibrium, price consumption curve and income consumption curve, - price effect, income effect and substitution effect, derivation of demand curve – Giffen Paradox – market demand.
- Elasticities of demand – price, income and cross elasticities – relation between price elasticity of demand, price and marginal revenue – relation between price elasticity and total expenditure.
- The Revealed Preference approach –negativity of substitution effect from Revealed Preference approach.

## 3. Producer Behaviour

(22 Lectures)

- Production function: the neo-classical production function – relation between total, average and marginal productivities – law of variable proportions – the fixed coefficient production functions.
- Isoquant and properties of iso-quant, Iso-cost line. Economic region of production, marginal rate of technical substitution, equilibrium of the producer - constrained output maximization and constrained cost minimization, output and substitution effects – elasticity of substitution – expansion path, returns to scale -homogeneous and homothetic production function, the Cobb Douglas and CES production function.

- Cost function: different concepts of costs, short run cost analysis and long run cost analysis – relation between the expansion path and cost function – total, average and marginal cost curves – long run cost curves as envelope of short run cost curves.

#### **4. Theory of Perfect Competition**

**(10 Lectures)**

Perfect competition —Short run and long run equilibrium of a competitive firm – Short run and long run supply curves—Elasticity of Supply. Long run equilibrium of the competitive industry- price determination in a competitive industry, producer's surplus – existence, uniqueness and static stability of equilibrium –long run supply curves of the industry- effects of external economies and diseconomies – effect of change in cost – effect of imposition of tax – effect of price control.

#### **References:**

1. Robert S. Pindyck, Daniel L. Rubinfeld, PremL.Mehta: Microeconomics, 7<sup>th</sup>Edn. Pearson.
2. Koutsoyiannis: Microeconomic Theory
3. Ferguson and Gould: Microeconomic Theory
4. H. Varian: Intermediate microeconomics
5. Henderson and Quandt: Microeconomic Theory
6. Ryan and Pearce: Price Theory, Macmillan.
7. A. Bilas : Microeconomics.

## Minor Course

### Basic Microeconomics

(ECON 1021)

**Full Marks: 75 (60 Theory + 15 Internal)**

**Credit: 4**

**LTP: 3-1-0**

**Number of Lectures: 60**

#### **1. Consumer's Behaviour: (18 Lectures)**

- Utility: Total and Marginal Utility- Law of Diminishing Marginal Utility – Law of Demand.
- Indifference Curve: Definition, Characteristics. Consumer's equilibrium, Price effect, Income effect and Substitution effect.
- Elasticity of Demand – price and income elasticity, cross price elasticity of demand, Measurement of price elasticity.

#### **2. Producer's Behaviour: (20 Lectures)**

- Production Function: AP, MP and their derivation from TP Curve, Returns to Factor and Returns to Scale.
- Cost of Production: Real cost and Opportunity cost – Fixed and Variable cost. Shape of cost curves -- short run and long run. Relation between Average cost and Marginal cost.
- Total Revenue, Marginal Revenue and Average Revenue – Relation between TR, AR and MR curves. Relation between AR, MR and Price elasticity of Demand.

#### **3. Market Morphology: (10 Lectures)**

- Perfect competition, Monopoly, Monopolistic Competition, Oligopoly and Duopoly (concepts only).
- Short run and Long run equilibrium of firm and industry under Perfect competition, Price discrimination.
- Price and Output determination under Monopoly.

#### **4. Theory of Distribution : (09 Lectures)**

- Marginal Productivity Theory of Distribution, Factor price determination.
- Rent: Ricardian Theory and Modern Theory.
- Wage: Distinction between Money and Real wage – Factors determining Real wage
- Role of Trade Unions in wage determination under competitive set up.
- Interest: Real and money Interest – Loanable fund and Liquidity Preference Theory of Interest.
- Profit: Alternative Theories of Profit.

**5. General concepts of Welfare Economics:**

**(03 Lectures)**

Graphical presentation of Pareto optimality.

**References:**

1. Samuelson, P.A and William. D. Nordhaus,: Economics , McGraw Hill Book Co. Singapore.
2. Lipsey, R.G: An Introduction to positive Economics, Weidenfeld and Nicholson, London.
3. Ferguson and Gould: Microeconomic Theory, published by All India Traveller Book Seller.
- 4 .HaridasAcharya -AdhunikArthaniti- PrativaPublication,Kolkata
- 5 .Alok Ghosh and Anil Basak- Arthaniti-Prativa Publication, Kolkata



## **Multi / Interdisciplinary**

### **Elementary Economics**

**(ECON 1031)**

**Full Marks: 50 (40 Theory + 10 Internal)**

**Credit: 3**

**LTP: 2-1-0**

**Number of Lectures: 45**

#### **Some Basic Concepts:**

**(05 Lectures)**

- Scope of Economics - Distinction between Microeconomics and Macroeconomics – concept of different Microeconomic units – commodity, consumer, firm, industry and market. Determinants of demand and supply, demand curve, supply curve – concepts of equilibrium

#### **1. Consumer's Behaviour:**

**(10 Lectures)**

- Utility: Total and Marginal Utility- Law of Diminishing Marginal Utility – Law of Demand.
- Indifference Curve: Definition, Characteristics. Consumer's equilibrium. Price effect, Income effect and Substitution effect (concepts only)
- Elasticity of Demand – price and income elasticity, cross price elasticity of demand (concepts only). Importance (or use) of elasticity of demand.

#### **2. Producer's Behaviour:**

**(10 Lectures)**

- Production Function: AP, MP and their derivation from TP Curve, Returns to Factor and Returns to Scale.
- Cost of Production:– Fixed and Variable cost. Cost curves - short run and long run (concepts only).
- Total Revenue, Marginal Revenue and Average Revenue (concepts only).

#### **3. Market Morphology:**

**(10 Lectures)**

- Perfect Competition: Short run and Long run equilibrium of firm and industry under Perfect competition.
- Monopoly, Monopolistic Competition, Oligopoly and Duopoly (concepts only)

#### **4. The National Income and products accounts**

**(10 Lectures )**

- Definition, concepts and measurement of GNP, NNP, GDP, NDP, NI, DI, GNP deflator, GDP deflator and price indices.
- Different methods of measuring national income – product method, income method and expenditure method.
- Problems of using national income as a measure of Economic welfare.

- Problems of measuring national income in any country
- Circular flow of income – equilibrium condition – concepts of injection, withdrawal etc.

**References:**

1. Samuelson, P.A and William. D. Nordhaus, : Economics , McGraw Hill Book Co. Singapore.
2. Lipsey, R.G: An Introduction to positive Economics, Weidenfeld and Nicholson, London.
3. Ferguson and Gould: Microeconomic Theory, published by All India Traveller Book Seller.
4. Sampat Mukherjee and Debesh Mukherjee – SamakalinArthabidya – New Central Book Agency, Kolkata.
5. Haridas Acharya –AdhunikArthaniti – PrativaPublication, Kolkata
6. Alok Ghosh and Anil Basak – Arthaniti - Prativa Publication, Kolkata
7. K.KDewett- Modern economic Theory, S. Chand Publication.

**SEC**

**Basic Computer Applications**

**(ECON1051)**

**(Practical)**

**Full Marks: 50 (40 Final Practical + 10 Internal)**

**Credit: 3**

**LTP: 0-0-3**

**Number of Total Practical Classes: 45 Each of 2 Hrs**

*It is a Lab Based Practical Paper. The student shall learn the operations through Hands-on Practical Training followed by practical tests and Viva.*

- 1. File Creation and Management System (06 Practical)**  
The File Tree; File Naming Conventions;
- 2. Word Processing (14 Practical)**  
Basic features of Text formatting; Creating documents; Heading Styles; Creating Reference Lists
- 3. Spread Sheet Solutions (15Practical)**  
Basic features of Spreadsheets; Data entry, Mathematical Functions, Financial functions, Statistical Functions, Creating simple Line, Bar and Pie charts;
- 4. Presentations (10 Practical)**  
Creating Presentations; Pasting Charts etc in Presentations; Exporting Presentations as PDF

**References:**

1. Data Analysis Using Microsoft Excel – Ash Narayan Sah Excel Books India Excel 2010 For Dummies  
Colin Banfield, John Walkenbach
2. BhoumikSankar, Principles of Econometrics: A Modern Approach Using Eviews, OUP



## **2<sup>nd</sup> Semester**

### **Major /DS Course (Core)**

#### **Macroeconomics-I**

**(ECON 2011)**

**Full Marks: 75 (60 theory + 15 Internal)**

**Credit: 4**

**L-T-P: 3-1-0**

**No of Lectures: 60**

#### **1. The National Income and products accounts (Lectures - 12)**

- Definition, concepts and measurement of GNP, NNP, GDP, NDP, NI, DI, GNP deflator, GDP deflator and price indices.
- Interrelation between measures of national income in the absence and presence of Governmental sector and international transactions.
- Different methods of measuring national income – product method, income method and expenditure method.
- The Accounting identity of saving and investment.
- Problems of using national income as a measure of Economic welfare.
- Problems of measuring national income in any country
- Circular flow of income – equilibrium condition – concepts of injection, withdrawal etc.

#### **2. Consumption function (Lectures - 6)**

- Keynesian consumption function and its properties – factors affecting consumption expenditure – saving function and its properties.
- Empirical findings regarding consumption function – Alternative theories – Permanent income hypothesis, Absolute income hypothesis, Life cycle hypothesis, Relative income hypothesis.

#### **3. Investment function (Lectures-10)**

- Keynesian theory of investment – The marginal efficiency of investment–shortcomings of Keynesian analysis.
- Marginal efficiency of capital (MEC) and Net present value (NPV) criterion of investment – comparison between them.
- Determination of optimum stock of capital by using MEC schedule–Relation between MEC and MEI – factors affecting them.

- The Fixed Acceleration Principle of investment – its implications and limitations.
- The Flexible Acceleration Principle of investment – its implications and limitations.
- Induced investment function and different multipliers.

#### **4. The Simple Keynesian model of income determination (Lectures - 08 )**

- Determination of equilibrium level of income – nature of equilibrium – stability of equilibrium
- Comparative Static analysis – the multiplier analysis with and without Governmental sector – Investment multiplier, Government expenditure multiplier, Balanced budget multiplier, limitations of the multiplier analysis
- Paradox of thrift.

#### **5. Money market (Lectures - 12)**

- Motives of holding money – Transactions, Precautionary and Speculative motives.
- Keynesian liquidity preference theory – indeterminacy of rate of interest in the liquidity preference theory – the liquidity trap.
- Loanable fund theory of rate of interest determination
- The inventory theoretic approach to transaction demand for money – Baumol's and Tobin's Version.

Supply of money – Different sources of money supply – M1, M2, M3, and M4 – functions of money – credit creation by commercial banks – money multiplier – high powered money – interest sensitivity of money supply.

#### **6. Interaction between commodity market and money market (Lectures - 12)**

- Construction of the IS and LM curves – Determination of equilibrium value of rate of interest and national income – stability of equilibrium.
- Comparative static analysis – effect of shift of saving, investment, Government expenditure, taxation, money demand, money supply, price level on the IS-LM framework.
- Relative effectiveness of monetary and fiscal policies in terms of IS-LM model.
- Crowding out effect
- Value of multiplier and comparison with simple Keynesian multiplier.

## References –

1. Mankiew – Macroeconomics
2. Sikdar,S – Principles of Macroeconomics, Oxford University Press.
3. D’Souza, Erol – Macroeconomics, 2nd Edition, Pearson.
4. Ackley – Macroeconomic Theory and Policy, 2nd Edition.
5. Branson – Macroeconomic Theory and Policy
6. Dornbusch and Fisher: Macroeconomics
7. Froyen – Macroeconomics – Theories and Policies, 10th Edition, Pearson.
8. Levacic and Rebbman – Macroeconomics
9. Readings in Macroeconomics – Mueller (ed) (Selected articles).

## Minor Course

### Basic Macroeconomics

(ECON 2021)

Full Marks: 75 (60 Theory +15 Internal)

Credit: 4

L-T-P:3-1-0

Number of Lectures: 60

#### 1. The National Income and products accounts (Lectures - 12 )

- Definition, concepts and measurement of GNP, NNP, GDP, NDP, NI, DI, GNP deflator, GDP deflator and price indices.
- Different methods of measuring national income – product method, income method and expenditure method.
- Problems of using national income as a measure of Economic welfare.
- Problems of measuring national income in any country
- Circular flow of income – equilibrium condition – concepts of injection, withdrawal etc.

#### 2. Money market (Lectures - 18)

- Motives of holding money – Transactions, Precautionary and Speculative motives.
- Keynesian liquidity preference theory – indeterminacy of rate of interest in the liquidity preference theory – the liquidity trap.
- Supply of money – Different sources of money supply – M1, M2, M3, and M4 – functions of money

#### 3. Simple Keynesian Model (Lectures - 05)

Simple Keynesian theory of income and employment: Concept of effective demand – Keynesian consumption function - relation between average propensity to consume and marginal propensity to consume – Simple Keynesian static multiplier theory – investment

#### 4. IS-LM Model (Lectures - 05)

IS-LM model – construction of IS and LM curves – shapes – determination of equilibrium values of rate of interest and level of income.



## 5. The classical system

(Lectures - 08)

- The Classical view of macroeconomics in respect of the determination of employment, output and prices – Say's law of market..
- The Classical quantity theory of money and its criticisms – Fischer's transaction version - Cambridge cash balance version.

## 6. Theory of inflation

(Lectures -07)

- Concept of inflation - Demand pulls inflation and cost push inflation – comparison between them.
- Inflationary gap – Limitations of it.
- Consequences of inflation – measures to control inflation.

## 7. Banking

(Lectures - 05)

- Functions of Commercial Banks
- Functions of Central Bank
- Credit creation by Commercial Banks – credit creation multiplier.
- Credit control by Central Bank – Different methods of credit control.

### References:-

1. Gupta S.B: Monetary Economics, S.Chand and Co. New Delhi.
2. Sampat Mukherjee and Debesh Mukherjee – SamakalinArthabidya – New Central Book Agency, Kolkata.
3. Haridas Acharya – AdhunikArthaniti – Prativa Publication, Kolkata
4. Alok Ghosh and Anil Basak – Arthaniti - Prativa Publication, Kolkata

**Multi / Interdisciplinary**

**Issues in Indian Economy (ECON 2031)**

**Full Marks: 50 (40 Theory + 10 Internal)**

**Credit: 3**

**L-T-P: 2-1-0**

**Number of Lectures: 45**

**1. Structure of Indian Economy: (06 lectures)**

- Sectoral distribution of National Income and its change since inception of Planning.
- Occupational pattern in India- during plan period
- Inequalities in Income distribution.
- Unemployment and poverty eradication programmes and their effectiveness.

**2. Human resources and economic development: (05 lectures)**

- Population policy and population projections for India.
- Changes in sex composition since inception of planning.

**3. Agriculture: (06 Lectures)**

- Causes for low productivity- relation between farm size and productivity.
- Public distribution system.
- New agricultural policy; Green revolution and its prospects.
- Land reforms and its appraisal.

**4. Industry: (05 lectures)**

- Role of small-scale industries and policy perspective to help them
- Industrial Sickness

- Role of trade union and social security measures in India.

## **5. Banking:**

**(08 lectures)**

- Role of Indian Commercial Banks and Reserve Bank of India.
- Monetary Policy of the Reserve Bank of India.
- Banking Sector reforms in India.

## **6. Indian Public Finance:**

**(08 lectures)**

- Finance Commission
- Sources of Revenue and Expenditure of Union and State Government.
- Centre-State Conflict on Finances.

## **7. Foreign trade**

**(07 lectures)**

- Volume and direction of India's foreign trade in the post-Liberalization period.
- GATT and its effects in Indian Economy

### **Recommended Books:**

1. Dutta R. and K.P.M. Sundaram: Indian Economy, S. Chand and Co. New Delhi
2. Misra S.K.V. K. Puri: Indian Economy, Himalayas Publishing Co. Mumbai.
3. Agarwal A.N: Indian Economy, Vikash Publishing Co. Delhi
4. Gupta, S.B.: Monetary Planning in India, Oxford University Press, Delhi.
5. P. N. Dhar: Indian Economy
6. Debesh Mukherjee: SamakalinBharatiyaArthoniti, New Central Book Agency

## SEC

### Entrepreneurship Development (ECON 2051)

**Full Marks: 50 (40 Theory + 10 for Internal)**

**Credit: 3 L-T-P : 2-1-0**

**Lectures: 45**

**1. Evolution of the concept of Entrepreneur (05 Lectures)**

Basic features - Entrepreneurship and economic development - Growth of entrepreneurship in India—Role of Entrepreneurship in Economic Development, Problem of Rural entrepreneurship in India

**2. Entrepreneurship motivation (08 lectures)**

Motivation theories, Maslow's need Hierarchy Theory, McClland Acquired Needs Theory, Kakinada Experiment

**3. Project identification and selection (8 Lectures)**

Meaning of project- project report--- planning commission's guidelines for formulating a project report

**4. Financial resources for new ventures (08 Lectures)**

Sources of finance---capital structure - institutional support to enterprises—national small industries board – state small industries development corporation--- district industries center--- industrial estates.

**5. Growth strategies in small business (09 Lectures)**

Stages of growth, Types of growth strategies, Expansion, Diversification, Joint Venture, Merger, Subcontracting

**6. Sickness in Small Business (07 lectures)**

Concept of industrial sickness, Symptoms of sickness, Causes and consequences of industrial sickness

**References:**

1. S.S Khanka--- Entrepreneurial Development, S.Chand& Company Ltd
2. Bill Bolton and John Thompson ---- Entrepreneurs: Talent, Temperament and Technique, Butterworth and Heinemann.
3. David .H Holt---Entrepreneurship New Venture Creation
4. Poornima M. Charantimath: Entrepreneurship Development and Small Business
5. Enterprises (2<sup>nd</sup> Edition) Pearson.

# 3<sup>rd</sup> Semester

## Major / DS Course

### Microeconomics-II(ECON 3011)

Full Marks: 75 (60 Theory + 15 Internal)

Credit: 5

LTP: 4-1-0

Lectures: 70

#### 1. Imperfect Competition (18 Lectures)

- Theory of monopoly: Characteristics- AR and MR curves under monopoly – Relation among AR, MR and Elasticity of demand – Equilibrium under monopoly – major features of monopoly- index of monopoly power – price discrimination – Degree of price discrimination – equilibrium under price discrimination. Equilibrium under Multiple Plant monopoly – Monopsony - Equilibrium under bilateral monopoly.

- Monopolistic competition: Short run and long run equilibrium – excess capacity.

#### 2. Theory of Oligopoly (18 Lectures)

- Characteristics of oligopoly- non-collusive oligopoly models of Cournot and Stackelberg – collusive oligopoly – price leadership – market sharing model – price rigidity under oligopoly.

#### 3. Theory of Factor Pricing (20 Lectures)

- Demand for factors of production – Determinants of price elasticity of demand for a factor – marginal productivity theory and its limitations

- Theory of wage - Choice between work and leisure – derivation of individual labour supply curve – total labour supply curve – demand for labour – determination of equilibrium in a competitive labour market- collective bargaining and wage rate.

- Theory of rent- Transfer earning and economic rent – quasirent – Rent and price

- Theory of profit - Gross and net profit- elements of profit- risk and uncertainty theory- Innovation theory of profit.

#### 4. General Equilibrium and Economic Welfare (14 Lectures)

- Partial and general equilibrium – a formal statement of general equilibrium approach – the concept of Pareto optimum – Pareto optimality in consumption – Pareto optimality in production – General Pareto optimality condition.

#### References:

1. Robert S. Pindyck, Daniel L. Rubinfeld, Prem L. Mehta: Microeconomics, 7<sup>th</sup> Edn. Pearson
2. H. Varian : Intermediate microeconomics
3. Ferguson and Gould : Microeconomic Theory
4. Henderson and Quandt : Microeconomic Theory
5. Koutsoyiannis : Microeconomic Theory

## Major / DS Course

### Statistical Methods-I(ECON 3012)

**Full Marks: 75 (60 Theory + 15 Internal)**

**Credit: 5**

**LTP: 4-1-0**

**Lectures: 70**

- 1. Tabular and Diagrammatic Presentation of Data:** (05 Lectures)
  - Introduction and Overview - The distinction between populations and samples and between population parameters and sample statistics
  - Statistical Data – classification and presentation – methods of collection of data–difference between variable and attributes–frequency distribution and its diagrammatic presentation – choice of class interval – diagrammatic representation of frequency distribution – frequency curve – cumulative frequency distribution (more than and less than), Ogive - (simple numerical exercise)
- 2. Measures of Central Tendency** (10 Lectures)
  - Arithmetic mean, median and mode (for both grouped and ungrouped data) – comparison and relation between mean, median and mode – geometric mean and harmonic mean (for both grouped and ungrouped data) – composite mean (average from combined data) –properties for all these measures, partition values- Quartiles, Deciles and Percentiles. (simple numerical exercise)
- 3. Measures of Dispersion** (10 Lectures)
  - Meaning and necessity of ‘measures of dispersion’
  - Absolute measures – Range, mean deviation and Standard deviation and Quartile Deviation, Properties of SD, Composite group, Relative measures–curve of concentration - (simple numerical exercise)
  - Measurement of economic inequality: nature of distribution of income and wealth graduating from income distribution–Lorenz Curve representation of income distribution–Gini Coefficient and Lorenz Curve-(simple numerical exercise)
- 4. Skewness and Kurtosis** (09 Lectures)
  - Moments and measures of skewness and Kurtosis: moments, skewness and kurtosis–definition– relationship between central and non-central moment–Sheppard’s correction- (simple numerical exercise)
- 5. Correlation and Regression Analysis** (20 Lectures)
  - Concept of correlation and regression, Bivariate data, Scatter diagram.
  - Simple correlation coefficient and its properties, its calculation from grouped and ungrouped data, interpretation and use of correlation coefficient, limitations of correlation coefficient. Simple regression analysis – properties of regression line – relationship between correlation coefficient and regression coefficient. Spearman’s rank correlation coefficient (without tie) – Kendall’s rank correlation coefficient- (simple numerical exercise)
  - Multiple and Partial Correlation - Three variable case – deduction of formula – Simple numerical Problems.
- 7. Index Numbers** (05 Lectures)

- Purpose and uses of index number, problems of construction, different formulae for price and quantity index numbers, tests for index numbers, chain index, cost of living index and simple numerical exercise – (Simple numerical Problems.)

**8. Time Series** (07 Lectures)

- Nature and decomposition of time series – analysis of trend—polynomial trend – exponential trend – non-linear growth curves – (Simple numerical Problems.)

**9. Vital statistics** (04 Lectures)

- Measures of crude birth rate, death rate, age sex specific birth and death rates; infant mortality rate; construction and use of life table( (Simple numerical Problems.).

**References:**

1. Goon, Gupta and Dasgupta – Fundamental of Statistics, Vol. I & II
2. Goon, Gupta and Dasgupta – Basic Statistics
3. Yule and Kendall – An Introduction to the Theory of Statistics
4. Gupta and Kapoor – Fundamental of Mathematical Statistics.
5. N. G. Das – Statistical Method (Part I & II)
6. J. F. Kenney and E. S. Keeping. Mathematical Statistics: Part 1 & Part II, Chapman and Hall, New York, 1954.
7. Mood, A.M., F. A. Graybill and D.C. Boes, Introduction to the theory of statistics, McGraw Hill, 1974.
8. William G. Cochran, Sampling Techniques, John Wiley, 2007



**Multi/ Interdisciplinary**  
**Money and Banking** (ECON 3031)

**Full Marks: 50 (40 Theory +10 Internal)**  
**Number of Lectures: 45**

**Credit: 3**

**LTP: 2-1-0**

### **1. Money (15 Lectures)**

Evolution of Money, Concept, functions and types of Money  
Supply of Money – Factors Determining Money Supply – Measures of Money Supply (M1, M2, M3 etc) – High Powered Money and Money Multiplier  
Demand for Money- Transaction demand for Money – Precautionary Demand for Money – Speculative Demand for Money

### **2. Banking (20 Lectures)**

Commercial Bank: Definition and functions of Commercial Banks. Credit creation by Commercial banks. Major Developments in Commercial banking in India since independence. Performance of Commercial banks in India.  
Central Banking- Functions; Methods of Credit Control, Role and Functions of the Reserve Bank of India; Objectives & Limitations of Monetary Policy with Reference to India

### **3. Banking Sector Reforms in India (10 Lectures)**

Banking Sector Reforms in India since 1991

- Narasimhan Committee- 1991&1998
- R H Khan Committee-1997
- RaghuramRajan Committee-2008

### **References:**

1. S.B Gupta: Monetary Economics: Institutions, Theory and Policy, 4<sup>th</sup> edition, S. Chand Publishing.
2. M. Y. Khan, Indian Financial System, Tata McGraw Hill, 7<sup>th</sup> edition.
3. L. M. Bhole and J. Mahukud, Financial Institutions and Markets, Tata McGraw Hill, 5<sup>th</sup> edition.
4. Cauvery, Kruparani, Sudha and Manimekalai: Monetary Economics, 2<sup>nd</sup> Edition S. Chand Publishing.
5. Sujatra Bhattacharyya: Indian Financial System, 2<sup>nd</sup> Edition, Oxford University Press
6. Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan

## SEC

### Managerial Economics (ECON 3051)

Full Marks: 50 (40 Theory +10 Internal)

Credit: 3

LTP: 2-1-0

Number of Lectures: 45

#### 1. Basics of Managerial Economics ( Lectures:8)

- Meaning, Scope and Nature of Managerial Economics, Basic Problems of Economy: Scarcity and Choices
- Organisational Goals – Profit maximization hypothesis, Critique of profit maximization hypothesis- alternative goals of the firm – Managerial theories- Baumol, Williamson, Behavioural Theory of the Firm.

#### 2. Demand Analysis:( Lectures:12)

- Meaning of Demand Analysis, Demand estimation for major consumer durable and non-durable goods
- Demand forecasting, Methods of demand forecasting: Survey Method, Statistical Methods – Trend Projection method, Regression Method, Leading Indicator Method. (Simple numerical problems)

#### 3. Price determination under different structures: ( Lectures:10)

- Methods of price determination in practice – Mark up pricing, Limit pricing, Average cost pricing, Peak load pricing, Multiple product pricing, Transfer pricing.( Simple numerical problems).

#### 4. Financial Investment decisions: ( Lectures:10)

- Distinction between real and financial assets, Needs of financial investment, Capital Budgeting- needs, different steps in capital budgeting, Capital budgeting appraisal methods(only concept), Alternative financial instruments and investments.

#### 5. Inventory Management:( Lectures: 5)

- Inventory Costs, Concepts of Average Inventory, Various inventory models – economic order quantity, optimum number of orders per year, optimum number of days supply per order

#### References:

1. Koutsoyiannis .A: Modern Microeconomics, MacMillan.
2. Hague: Managerial Economics, ELBS.
3. Maheswari and Varsheny : Managerial Economics, S.Chand& Co.
4. Thomas. C.R., Maurice, S.C., Sarkar, S : Managerial Economics , Tata McGraw Hills.
5. Peterson, C.H., Lews, W.C, Jain, S.K : Managerial Economics ,Peason Edition.
6. Mithani, D.M : Managerial Economics- Theory and Applications, Himalya Publishing House.
7. Damodaran, S.: Managerial Economics, Oxford University Press., New Delhi.
8. Mehta, P.L.: Managerial Economics – Analysis, Problems and Cases, S. Chand and Sons.
9. Chiang: Fundamental Methods of Mathematical Economics, McGraw Hill.

10. Madnani : Quantitative Microeconomics, Oxford and I.B.H Publishing Company.
11. I M Pandey: Financial Management, Vikas Publishing House PVT LTD.
12. Keat P. G. and Young P.K.Y – Managerial Economics, Pearson Education, N Delhi]

## 4<sup>th</sup> Semester

### Major /DS Course

#### Macroeconomics-II

(ECON 4011)

**Full Marks: 75 (60 theory + 15 Internal)**

**Credit: 5**

**L-T-P: 4-1-0**

**No of Lectures: 70**

#### **1. The classical system (Lectures - 14 )**

- The Classical view of macroeconomics in respect of the determination of employment, output and prices.
- The Classical quantity theory of money and its criticisms – Fischer’s transaction version - Cambridge cash balance version – Friedman’s restatement of quantity theory of money.
- Complete Classical model – full employment – Classical dichotomy – derivation of aggregate demand and aggregate supply curve – determination of equilibrium.
- Effect of change in different factors on complete Classical model.
- Say’s law and Walras’ law – The dichotomy between the real sector and monetary sector – neutrality of money.

#### **2. The Complete Keynesian model(Lectures – 14 )**

- Derivation of aggregate demand and aggregate supply curve – Keynesian labour supply function – determination of equilibrium – wage rigidity – involuntary unemployment – Underemployment equilibrium – effects of change in money supply and other factors on complete Keynesian model – money illusion.
- Comparison with the Classical system – price flexibility – Real balance effect.

#### **3. Money and Prices:(Lectures - 9)**

- Value of Money and Price Level
- Quantity Theory of Money: Fisher’s Transactions Approach – Fisher’s Equation of Exchange – Cambridge Cash-Balance Approach – Critical Evaluation of the Quantity Theory of Money – Keynes’s Critique of the Quantity Theory of Money – Friedman’s Modern Quantity Theory of Money

#### **4. Theory of inflation (Lectures - 9)**

- The Quantity theory approach to inflation.
- Demand pull inflation and cost push inflation – comparison between them – Hyperinflation, mild inflation, mark up inflation – wage-price spiral.
- Inflationary gap – Limitations of it.
- Phillips curve – implication – short run and long run Phillips curve - Okun’s law – Augmented Phillips curve – natural rate of unemployment
- Consequences of inflation – measures to control inflation.

## **5. Economic Growth(Lectures - 10)**

The Harrod – Domar model – assumptions – implications – actual, warranted and natural rate of growth – knife edge instability problem and its economic implication – causes behind it – properties of warranted rate of growth.

Solow Model of Growth-basic departure from Harrod-Domar model, steady state growth, golden rule of accumulation, issues of dynamic efficiency in solow growth model, solow growth accounting

## **6. Role of expectation (Lectures - 8)**

Naive expectation, Cobweb phenomenon, Adaptive expectation, Rational expectation (Rules for building expectations) – Concepts only

## **7. Open economy (Lectures - 6)**

Foreign trade multiplier, Mundell-Flemming model

### **References:-**

10. Mankiew – Macroeconomics
11. Sikdar,S – Principles of Macroeconomics, Oxford University Press.
12. D’Souza, Erol – Macroeconomics, 2nd Edition, Pearson.
13. Ackley – Macroeconomic Theory and Policy, 2nd Edition.
14. Branson – Macroeconomic Theory and Policy
15. Dornbusch and Fisher: Macroeconomics
16. Froyen – Macroeconomics – Theories and Policies, 10th Edition, Pearson.
17. Levacic and Rebbman – Macroeconomics
18. Readings in Macroeconomics – Mueller (ed) (Selected articles).

## Major /DS Course

### Mathematical Economics –I (ECON 4012)

Full Marks: 75 (60 theory + 15 Internal)

Credit: 5

L-T-P: 4-1-0

No of Lectures: 70

#### 1. Single and multivariable functions:

15 Lectures

- Logic and proof techniques
- Sets, Convex sets, Basic set operations
- Relations and functions
- Types of functions: quadratic, Polynomial, Power, Exponential, Logarithmic,
- Sequences and series: Convergence, algebraic properties and applications,
- Continuous functions, Characterizations, properties with respect to various properties and applications,
- Differentiable functions, Characterizations, properties with respect to various operations and applications,
- Second and higher order derivatives and applications,
- Implicit function theorem
- Total and partial differentiations, properties and applications,
- Homogeneous and non-homogeneous functions, properties and application

**Applications in Economics:** Demand function - Elasticity of demand - Marginal revenue - Marginal utility - Relation between average and marginal revenue - Slope and curvature of indifference curve and Iso-quant - Marginal product - Elasticity of factors substitution - Total product curve - Point of inflexion - Returns to scale - Properties of Cob Douglas production function - Product exhaustion theorem - Linear, Quadratic and Cubic cost functions.

#### 2. Unconstrained Optimization:

15 Lectures

- Concave and convex functions, their characterizations and applications, local and global optima: geometric characterizations
- Characterizations using calculus, First order and second order conditions and applications.

**Applications in Economics:** Relation between AP and MP - Relation between AC and MC - Profit maximization.

#### 3. Constrained Optimization with equality constraints:

15 Lectures

- Geometric Characterization, Lagrange Characterization using calculus, Value function, Envelop Theorem
- Quasi-concave functions, level curves, their characterizations and applications,.

**Applications in Economics:** Utility maximization subject to budget constraint - output maximization subject to cost constraint - Cost minimization subject to output constraint.

#### **4. Integration of Functions:**

**10 Lectures**

Concept of Integration as a reverse process of differentiation – Rules of Integration Techniques of definite integral.

**Applications in Economics:** Finding out total functions (TR, TC, Consumption function, Saving function) when marginal functions are given – Consumer's surplus – Producer's surplus.

#### **5. Techniques of dynamic Analysis:**

**15 Lectures**

- Notion of stationary values and stability – First order Differential Equation
- First and Second order Linear Difference Equation with constant term.

**Applications in Economics:** Dornbusch's Analysis of Growth-Price dynamics in a competitive market – The Cobweb Model – Dynamic multiplier – Multiplier Accelerator interaction Model.

#### **Suggested Readings:**

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Education Asia: Delhi, 2002.
2. A. C. Chiang, and K. Wainwright, *Fundamental Methods of Mathematical Economics*, 4<sup>th</sup> edn. Tata McGraw Hill Education Pvt. Ltd. 2013.
3. B. Mukherjee and V. Pandit, *Mathematical Methods for Economic Analysis, Allied: 1989*
4. Taro Yamane, *Mathematics for Economist: An Elementary Survey*.

## Major /DS Course

### Statistical Methods-II

(ECON 4013)

Full Marks: 75 (60 theory + 15 Internal)

Credit: 5

L-T-P: 4-1-0

No of Lectures: 70

#### 1. Theory of Probability

(Lecture: 12)

Random Experiments – Sample or Outcome Spaces (Discrete and Continuous case) – Events and their Algebra – Mutually Exclusive, Equally Likely and Collectively Exhaustive Events

- Basic idea of set theory (concept only), Probability: Classical and Axiomatic Definition – Complementary Event – Theorem of Total Probability – Conditional Probability – Theorem of Compound Probability – Independent Events, Bayes' Theorem-(simple numerical exercise)

#### 2. Probability Distributions:

(Lecture: 12)

- Random Variables (discrete and continuous), Probability Mass and Density Functions - Expectation and Variance of Random Variables (for Random Sampling With and Without replacement)
- Univariate Probability Distributions-Uniform, Binomial, Poisson, Normal Distributions – Mean, Variance. Moment Generating Functions. -(simple numerical exercise)

#### 3. Sampling Theory and Sampling Distributions:

(Lecture: 14)

- Population and Sample, Parameter and Statistic, Random Sampling – Practical Methods of Drawing Random samples – Random sampling Numbers – Sampling Distribution – Standard Error
- Sampling Distributions associated with Normal Population, Expectation and Standard Error of Sample Mean, Types of sampling-Stratified Sampling (Definition and Purpose), Sampling vs Non sampling error, ChiSquare Distribution, Student's t Distribution, F-Distribution (definition and importance, properties and uses only)

#### 4. Estimation:

(Lecture: 12)

- Desirable Properties of a good estimators – Unbiasedness, Minimum Variance – Simple Methods of Point Estimation – Maximum Likelihood. Estimators and their properties – Maximum Likelihood estimation of the parameter of Binomial, Poisson and Normal Distribution and estimation of population parameters using method of moments.

#### 5. Testing of hypothesis

(Lecture: 10)

- Null hypothesis & Alternative Hypothesis–Confidence Intervals – Testing of Hypothesis – P-value – Type-I and Type-II Errors – Simple applications of tests for the Mean and Variance of a Univariate Normal Population. -(simple numerical exercise)

#### 6. Analysis of Variance

(Lecture: 10)

- Basic concept-importance-assumptions-ANOVA Table (One-Way-ANOVA, Two-Way-ANOVA)- (simple numerical exercise)

#### References:

9. Goon, Gupta and Dasgupta – Fundamental of Statistics, Vol. I & II
10. Goon, Gupta and Dasgupta – Basic Statistics
11. Yule and Kendall – An Introduction to the Theory of Statistics



12. Gupta and Kapoor – Fundamental of Mathematical Statistics.
13. N. G. Das – Statistical Method (Part I & II)
14. J. F. Kenney and E. S. Keeping. Mathematical Statistics: Part 1 & Part II, Chapman and Hall, New York, 1954.
15. Mood, A.M., F. A. Graybill and D.C. Boes, Introduction to the theory of statistics, McGraw Hill, 1974.
16. William G. Cochran, Sampling Techniques, John Wiley, 2007

## **Minor Course**

### **Computer Applications (ECON 4021)**

**Minor (other than Economics)**

**Full Marks: 75 (60 Practical +15 Internal)**

**Credit: 4**

**Number of Total Practical Classes: 45 Each of 2 Hrs**

*It is a Lab Based Practical Paper. The student shall learn the operations through Hands-on Practical Training followed by practical tests and Viva.*

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|---|-----------------------|
| <b>5. File Creation and Management System</b>   | <b>(06 Practical)</b> |
| The File Tree; File Naming Conventions;   |                       |
| <b>6. Word Processing</b>   | <b>(14 Practical)</b> |
| Basic features of Text formatting; Creating documents; Heading Styles; Creating Reference Lists   |                       |
| <b>7. Spread Sheet Solutions</b>  | <b>(15Practical)</b>  |
| Basic features of Spreadsheets; Data entry, Mathematical Functions, Financial functions, Statistical Functions, Creating simple Line, Bar and Pie charts; |                       |
| <b>8. Presentations</b>   | <b>(10 Practical)</b> |
| Creating Presentations; Pasting Charts etc in Presentations; Exporting Presentations as PDF   |                       |

#### **References:**

1. Data Analysis Using Microsoft Excel – Ash Narayan Sah Excel Books India Excel 2010 For Dummies Colin Banfield, John Walken
2. BhoumikSankar, Principles of Econometrics: A Modern Approach Using Eviews, OUP.



